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woodbridge

claypit feasibility study

herbert h. smith associates, 1241 parkway avenue, west trenton, new jersey

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Jack Hornung, Director of Urban Renewal
Jerry Rogers, Project Planner

Prepared in affiliation with
Frank H. Lehr Associates, Consulting Engineers
Alexander Summer Appraisal Company

TO THE CITIZENS OF WOODBRIDGE:

We stand today at the open door of a new — and possibly final — opportunity. Woodbridge Township can and should be one of the most magnificent municipalities in the State of New Jersey.

While our goals, as stated in the Community Renewal Program, might seem bold and drastic, they CAN be achieved. All that is needed is "Distance in our eyes..." to see our problems clearly and attack them with courage, vigor, enthusiasm, intelligence, determination and hard work.

We CAN and WILL revitalize our fine Woodbridge Township.

Walter Zirpolo
Mayor

Excerpt from the Introduction of
"WOODBRIDGE - TOMORROW"

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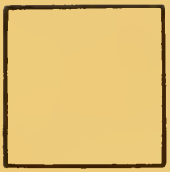


PREFACE

S. Buddy Harris
Executive Director

IN REPLY, REFER TO

Woodbridge Redevelopment Agency

106-108 Main Street
Woodbridge, New Jersey
MErcury 6-0520

REPORT OF COMMISSIONERS OF THE WOODBRIDGE REDEVELOPMENT AGENCY

Under the auspices of the Federal Housing and Home Finance Agency, the Woodbridge Rdevelopment Agency completed Woodbridge Township's Community Renewal Program Report. The CRP Report, "Woodbridge-Tomorrow" was released on June 8, 1962.

The program was undertaken with Federal financial and technical assistance. Victor Gruen Associates served as the Woodbridge Redevelopment Agency's Consultant Planners. The Community Renewal Program was reviewed and approved by the Planning Board, the Township Committee, Commissioners of the Woodbridge Redevelopment Agency, and Mayor Walter Zirpolo. The Community Renewal Program was submitted to the Urban Renewal Administration, ~~who~~ that also reviewed this report.

Part Two of the report, "Woodbridge-Tomorrow" proposes thirty-five recommendations for progress for Woodbridge Township. One of these recommendations, contained

within the section "Planning Elements" proposes the "Creation of a New Township Center," and goes on to point out that "....the claypit area between Routes 1 and 9 should be explored as a possible site",and that,"....in any event, Woodbridge should fully investigate the development potentials and costs of this area."

On August 21st, the Woodbridge Redevelopment Agency engaged the firm of Herbert H. Smith Associates, West Trenton, as Consultant Planners to undertake this Claypit Feasibility Study. Working as affiliates for the Consultant Planners were the firms of Alexander Summer Company and Frank Lehr Associates, who served as Marketability Consultants and Consultant Engineers, respectively.

None of these firms were consultants on the Community Renewal Program preparation. In this manner, we assured ourselves of an impartial, unbiased Feasibility Study.

We submit herewith, the Claypit Feasibility Study Report.

November 30, 1962

THE COMMISSIONERS OF THE WOODBRIDGE REDEVELOPMENT AGENCY

Andrew E. Lockie, Chairman
George Polkowski, Vice-Chairman
Stephen H. Rinyack, Treasurer
Konrad Stern, Commissioner
William Black, Commissioner
Isadore Rosenblum, State Appointee

S. Buddy Harris, Executive Director

WHY DEVELOP THE CLAYPIT AREA

There are many attributing factors which provided justification for the study of the development potential of the Claypit area. The study encompassed legal, real estate, economic, engineering, planning, community development, and marketability feasibility studies to determine if a program of this nature should be undertaken at this time, or at any time henceforth.

To begin with, as the area presently stands it is relatively non-productive. Except for a few businesses and residences within the limits of the project area, the land is vacant. It is obviously not being utilized to its fullest potentiality.

It is startling that Woodbridge does not at the present time have a true "Central Business District." Yet, this is understandable in light of Woodbridge's past development. The Township grew as a series of smaller communities generally scattered around its periphery, which encircles the once active, large, claypit area in the Township's center. These communities, each served by its own small shopping center, enlarged slowly over the years but in the decade of 1950-1960, the Township's population as a whole shot up startlingly. The population increased from 35,000 to 78,000, a gain of 120%--the largest population increase of any

New Jersey Township during this same period. But this growth was not a balanced, planned, or controlled growth. While the population increased drastically, commercial, industrial, civic, cultural, and educational developments lagged behind. Furthermore, no development occurred in the vast vacant claypits at the center of the Township. This situation persists today, for Woodbridge is now like a large city with many sizeable neighborhoods. But where the Woodbridge center would normally be expected, there is, instead, a great void of barren, fallow wasteland.

The oldest of the Woodbridge Township neighborhood shopping centers, on Main Street, does not adequately serve the entire Township because of the division of neighborhoods created by the Garden State Parkway, the New Jersey Turnpike, the Reading Railroad and various other major highway delineators. Because of this situation—poor access and geographic location—Woodbridge Township is, therefore, losing money that might otherwise be spent within a central business area. People are going outside of the community to do the bulk of their shopping and this has definitely had a serious effect upon the economic base and prestige of the Township. In addition, the present municipal center within the area is inadequate and does

not provide the unifying civic and cultural facilities so badly needed.

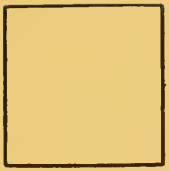
"Woodbridge-Tomorrow," the Township's recently published Community Renewal Program, clearly pointed up these problems. In addition, it pointed to a potential solution--the transformation of the vacant claypit area into a true center.

This site, because of its strategic location, excellent access to and from the major highways, and its large size, has the potential for development into a regional shopping center for the Township and its environs, a civic and cultural center, high-rise and garden apartments, professional buildings, a County junior college, a zoological park, a light industrial park, and various other types of development. Its central geographic location and the excellent access to and from the site permit it to serve a greater number of people than are presently being served by any existing business and civic area of the Township, thus allowing for increased trade within the Township and a stronger and sounder economy and way of life for the community.

At the same time, the development would create the unifying center needed to ensure the total development of the Township.

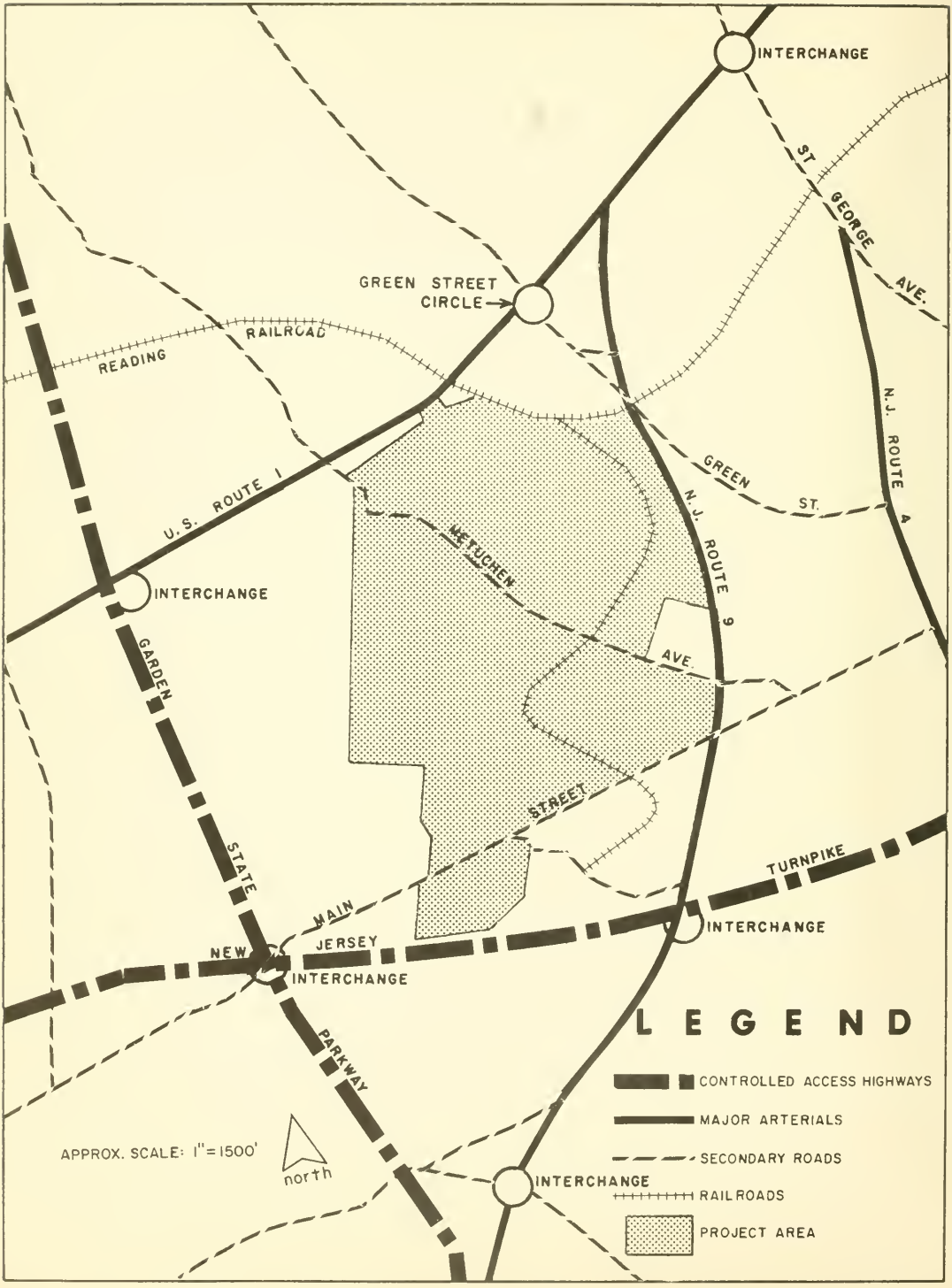
An uplift in community prestige would lend untold benefits to Woodbridge Township's dynamic and progressive potential future.

It is the purpose of this report to show how this is possible.



DESCRIPTION OF THE AREA AND GENERAL TOPOGRAPHIC FEATURES

PROJECT BOUNDARY MAP



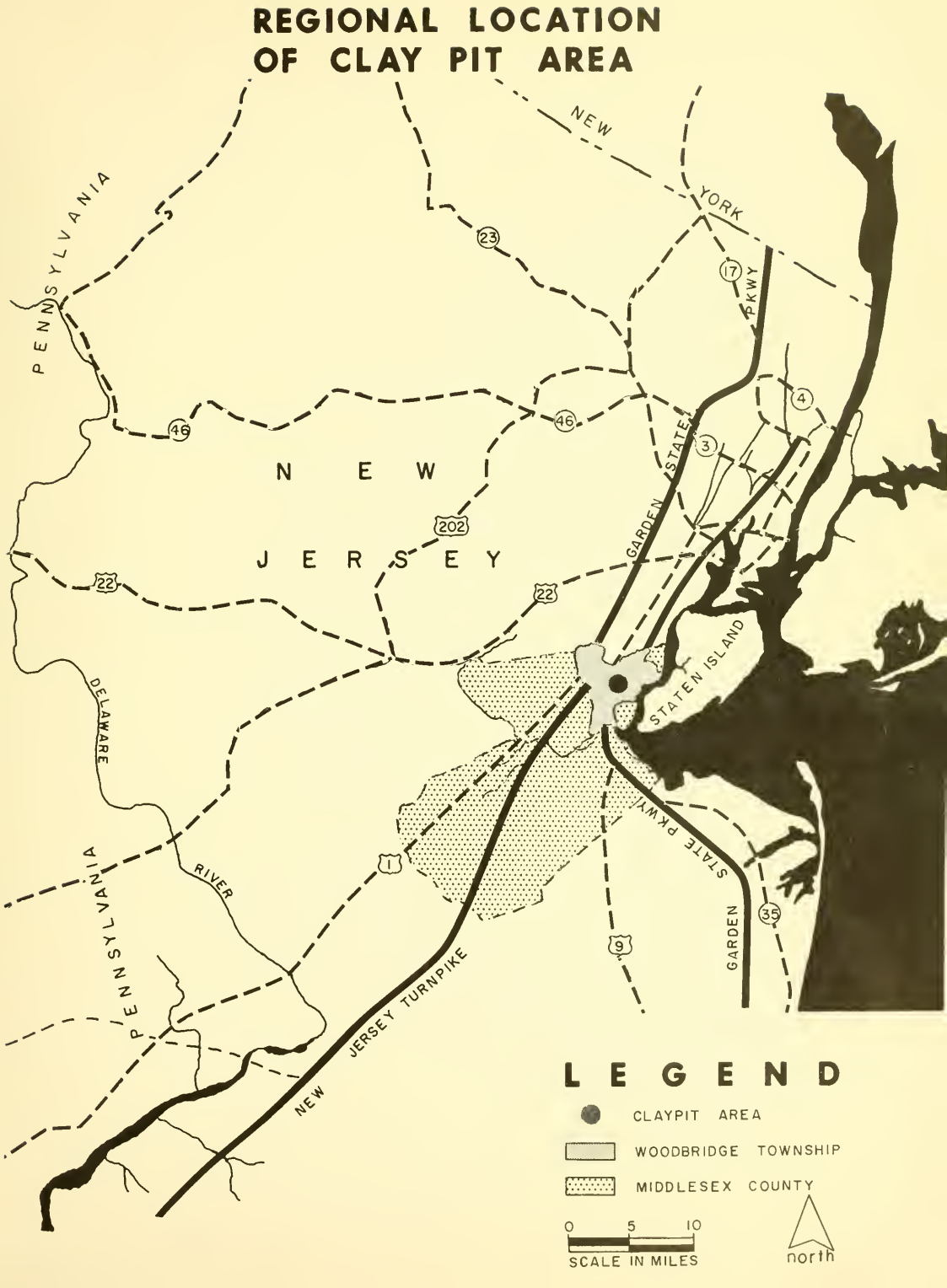
PREPARED BY: HERBERT H. SMITH ASSOCIATES WEST TRENTON, N.J.

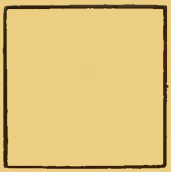
The area proposed for development is shown on the map on the preceding page. It is bounded by the right-of-way line for U.S. Route 1 and the Reading Railroad to the north; right-of-way of Route 9 to the east, skirting an existing residential area; Main Street and the New Jersey Turnpike right-of-way to the south, encompassing two properties between Main Street and the Turnpike; and the Beth Israel Cemetery by the west, skirting around a residential area at the lower western boundary. The highway and major thoroughfare network surrounding and running through the project area consists of U.S. Route 1 to the north, New Jersey Route 9 to the east, the New Jersey Turnpike to the south, and the Garden State Parkway to the west. Metuchen Avenue and Main Street run through the project at a northwest and southwest direction, respectively.

The area has two main topographic divisions. The eastern two-thirds of the area encompasses the actual claypits, which have an extremely variable manmade topography. The western one-third is higher, original ground and has a rolling topography, with no sharp changes in grade. This area is approximately 100 to 200 feet above mean sea level and is, for the most part, a grassy plain. The extreme

southwest corner is heavily wooded. A single track freight line of the Reading Railroad leaves the main track near Route 9 and winds through the eastern portions of the claypits, ending on the east side of Main Street at the General Coating factory. (It should be noted that this spur line is used one or two times a week by the factory, a dairy located on Metuchen Avenue, and a contractor on Metuchen Avenue.) A small stream known as Heards Brook begins in the western portions of the area south of Metuchen Avenue and flows in a generally easterly direction. It flows in a wooded gully 10 to 25 feet deep and possibly 30 feet wide; however, the stream itself is only several feet wide.

REGIONAL LOCATION OF CLAY PIT AREA





LEGAL FEASIBILITY

As the Claypit area presently stands, it is a relatively non-productive area. Except for the few businesses and residences within the limits of the project area, the land is vacant and obviously not being utilized to its fullest potential.

In undertaking an action program to develop the area to its highest and best use, there is, within the Statutes of New Jersey, a very logical legal tool that the governing body of the Township and the Woodbridge Redevelopment Agency may use in the acquisition of Claypit area land and the development of this area under a sound planning program.

Within the Blighted Areas Act of the New Jersey Statutes Annotated, Title 40, Chapter 55, Sections 21.1 through 21.14, several statements are made that are descriptive of the present state of the area.

For example, Section 21.1, "Blighted area defined," points out that

> As used in this act, the term "blighted area" shall mean an area in any municipality wherein there exists any of the conditions hereinafter enumerated:
> ...(c) Unimproved vacant land which has remained so for a period of ten years prior to the determination hereinafter referred to, and which land by reason of its location, or remoteness from developed sections or portions of such municipality, or lack of means of access to such other parts thereof, of topography, or nature of the soil, is not likely to be developed through the instrumentality of private capital;

> ...(e) A growing or total lack of proper utilization of areas caused by the condition of the title, diverse ownership of the real property therein and other conditions, resulting in a stagnant and unproductive condition of land potentially useful and valuable for contributing to and serving the public health, safety, morals and welfare.
>
> L. 1949, c. 187, p.__, par. 10.

The final decision on whether the area is, or is not, blighted rests with the Township Committee after a public hearing and resultant recommendations by the Planning Board.

For officially declared blighted areas, the Act gives the Township development powers. In Section 21.10, "Acquisition of property within blighted area," it is stated

> If the determination ~~if~~ is that an area is a blighted area, the governing body of the municipality may, but shall not be required to, acquire the real property within the area by purchase, or by eminent domain proceedings, and may proceed with the clearance, replanning, development or redevelopment of the area as a public purpose and for public use, or the said governing body may, by resolution, agree that a private corporation may undertake such clearance, replanning, development, or redevelopment, in accordance with statutory authority and subject to the provisions of Paragraph I, Section III, Article VIII, of the Constitution; provided, however, that the power of eminent domain hereinbefore conferred upon the governing body of the municipality shall not be exercised to acquire, for any of the purposes of this act, any property or interests in property owned or used by any public utility (as defined in Section 48:2-13 of the Revised Statutes) in furnishing any commodity or service which by law it is authorized to furnish.
>
> L. 1949, c. 187, p. 629, par. 10.

In essence, these provisions permit the Township to supplement its normal municipal powers by acting as an agent for land assemblage, disposition, and planning within officially designated blighted areas.

A procedural guide of the necessary legal steps that must be taken is as follows:

After "blight" has been clearly determined by the governing body or the Planning Board through a preliminary investigation, adopted by resolution of the Planning Board or governing body,

> A map of the boundaries of the area to be investigated shall be drawn up and the location of the various parcels of property included therein. There shall be appended to the said map a statement setting forth the basis for the investigation. 40:55-21.3.

A hearing is then held

> for the purpose of hearing persons interested in, or who would be affected by, a determination that the area is a blighted area, as defined in this act, and who favor or who are against such a determination. 40:55-21.4.

> At the hearing, which may be adjourned from time to time, the governing body, or Planning Board, as the case may be, shall hear all persons interested in the investigation and shall consider any, and all written objections that may be filed and any evidence which may be adduced in support of the objections, or any opposition to a determination that the area is a blighted area. 40:55-21.5.

> After the hearing, the governing body or Planning Board shall, by resolution, determine that the area or any part thereof is, or is not, a blighted area, if supported by substantial evidence, shall be binding and conclusive upon all persons affected by the determination. If the determination is that the area or any part thereof is a blighted area, the governing body or Planning Board, within ten days after such determination, shall cause to be served a copy of the resolution upon each person who filed a written objection prior to the hearing; provided, the address of the objector was stated in, or upon, the written objection. 40:55-21.6.

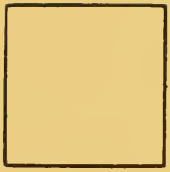
Approval, disapproval or modification of a report submitted to the governing body, if submitted by a Planning Board (in this case the Redevelopment Agency), shall be taken by the governing body within thirty days after the submission of the report.

> Where written objections shall have been filed and the determination is that an area is a blighted area, no further proceedings shall be taken by the governing body of the municipality upon such determination until thirty days shall have elapsed after such determination. If within said thirty day period an action to review the determination is commenced in the Superior Court, no further proceedings shall be taken by the said governing body upon such determination during the pendency of such action. 40:55-21.8.

If the determination is that an area is blighted, the governing body then proceeds with the acquisition of the real property within the project area, as pointed out in Section 21.10.

If it is decided that, in the best interest of a successful project, the railroad spur running through the project area should be relocated, this seemingly is possible

under provisions of the Blight Act under Section 21.11. However, the legality of such an undertaking would have to be studied carefully before any action were to be taken regarding this matter.



REAL ESTATE AND FINANCIAL FEASIBILITY

Collaborating on this study, the firm of Alexander Summer Appraisal Company prepared a preliminary estimate of the marketability of the site, and also estimated a probable range of values for acquisition and disposition of the land.

In preparing these estimates, consideration was given to the existing shopping centers in the region. The effect of these centers has been carefully weighed and it is the opinion of the firm that the Woodbridge center is feasible.

Taking into consideration the Township's rapid growth, it's proximity to New York City, its excellent transportational advantages, the benefit of not having to incur prohibitively high clearance costs due to its present undeveloped condition, and the opportunity for developers to locate in a well planned area, the firm concluded that the land would, in fact, be marketable with a possible time table projected over a two to ten year period.

The exact types of development possible, and their respective amounts cannot be accurately predicted at this stage, since these judgments are dependent upon detailed marketability, planning, and other considerations. The types of development include commercial, quasi-commercial, garden and high-rise apartments, light industrial,

and public (such as a civic and cultural center, zoological park, natatorium, a possible county junior college, etc.).

Estimates of acquisition costs indicate that these should be reasonable, given the undeveloped state of the land. Final negotiations and prices would, of course, have to be based upon actual appraisals.

The range of disposition values, given the advantages to a developer or developers of buying large tracts of land in a well planned and serviced area, are estimated to be appreciably higher than the prices paid. This is a normal occurrence in a land assembly and development undertaking, whether it be accomplished privately or publicly, and takes into consideration fair market value being paid to present owners.

In considering other factors in a project of this nature, the financial feasibility of such an undertaking should be clearly pointed out. It is necessary to ascertain an estimate of the financial gain or loss to the Township of such a project.

Based upon the real estate estimates of the Summer Report, it is our opinion that this project would not only be financially feasible, but that it would be a Township investment that would return tremendous dividends.

For example, if we compute the estimated cost of planning and acquiring the property, donate one-fourth of the land (100 acres) to the Township, at an estimated value of $400,000.00, for civic center and recreational purposes, divide up the remaining 300 acres into diversified reuse categories and place the lowest range of estimated value on these reuses, the gross financial gain to the Township should be at least two million dollars. Although this figure is a conservative approximation, and necessarily includes only a crude factor for sewer and water improvements, the advantage is clearly evident. If we use the same assumptions for acquisition, planning, and improvement costs, yet change the reuse value to the middle of the range of value estimated, the gross gain to the Township would be about three million dollars.

Again, it should be stressed that these immediate dollar gains are in addition to the 100 acres which the Township would gain for civic center, park and possible other public uses.

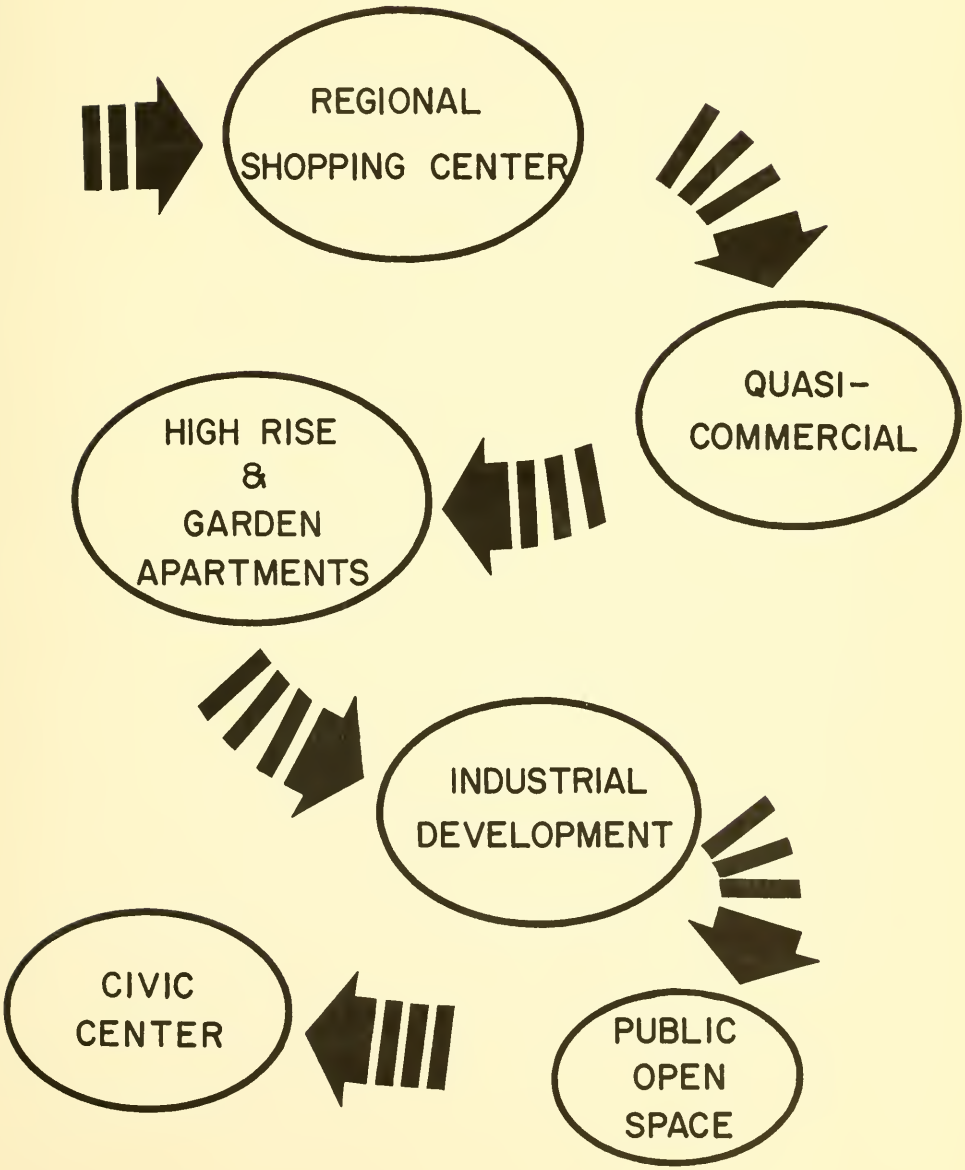
The most important financial gain to the Township, however, would not be these immediate gains. Instead, it would be the tremendous gross gain in ratables

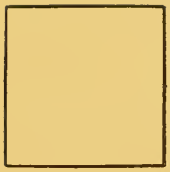
by the creation of a new and effective Woodbridge Center. In placing a dollar value based on the value of new construction, the most conservative comparisons of the potential of this site with that of others already developed can easily lead to a prediction of fifty to one hundred million dollars of new ratables. Furthermore, most of these ratables would be of the type which tends to maximize the ratio tax revenues to service costs.

At the present time, the tax return to the Township from all properties located within the project boundories has been computed at $24,916.30. This figure is based upon the tax rate for 1962 as received from the Woodbridge Township Tax Assessor's Office. It has been calculated that a likely total project value of the land and improvements under a reasonable form of land utilization will be approximately 75 million dollars. Assuming that the project value amounts to 70 million dollars upon completion, the annual tax revenue to Woodbridge would amount to $2,027,550.00 per annum based upon the present tax rate.

THIS MEANS THAT THE TOWNSHIP WOULD RECEIVE AN ANNUAL INCREASE IN TAX RATABLES OF $2,002,584.00, OR AN INCREASE OF APPROXIMATELY 80 TIMES THE PRESENT TAX RETURN TO THE TOWNSHIP.

POTENTIAL OF CLAY-PIT AREA





ENGINEERING FEASIBILITY

Also collaborating on the Woodbridge center study was the engineering firm of Frank H. Lehr Associates which was responsible for the preparation of preliminary engineering study and report for the Woodbridge center. The significant findings of this report are pointed out on the following pages.

OBJECT

The object of this report is to describe the results of a preliminary engineering study of the Woodbridge Claypit Area. This study was made to determine subsoil, drainage and topographic conditions of the area in question, for use in determining the feasibility of future development at this site.

PROJECT BOUNDARIES

The Woodbridge Claypit Area, located approximately in the geographical center of Woodbridge Township, New Jersey, is bounded, for the purposes of this report, by the following main features: to the north by U.S. Route 1, to the east by U.S. Route 9, to the southeast by Main Street, to the southwest by the New Jersey Tunrpike and to the west by Beth Israel Memorial Cemetery. There are several small, built-up portions of this area which probably will not be included in the project, however, this has little bearing on the preliminary Engineering Report.

GENERAL TOPOGRAPHIC FEATURES

The Woodbridge Claypit Area, as delineated in the previous paragraphs, is composed of two main topographic features. The eastern two-thirds of the area encompasses

the actual claypits, which have an extremely variable man-made topography. The western one-third is higher, original ground which has a rolling topography, with no sharp changes in grade. This area is approximately 100 to 120 feet above mean sea level and is for the most part a grassy plain. The extreme southwest corner is heavily wooded.

Metuchen Avenue bisects the area in an approximate east-west direction. A single track freight line of the Reading Railroad constitutes the north boundary. A single track spur line leaves the main track near Route 9, and winds through the eastern portions of the claypits, ending on the east side of Main Street at the General Coating Company factory. This spur line is used one or two times a week by this factory, a dairy located on Metuchen Avenue, and a contractor on Metuchen Avenue. A small stream known as Heards Brook begins in the western portions of the area south of Metuchen Avenue, and flows in a generally easterly direction. It flows in a wooded gully 10 to 25 feet deep and possibly 30 feet wide, however, the stream itself is only several feet wide.

There are very few structures located in this area and for the most part they lie on the perimeter or on Metuchen Avenue. They are mainly industrial buildings, the

exceptions being groups of homes at the intersection of Route 9 and Metuchen Avenue; and off Main Street near Beth Israel Cemetery.

The claypit to the north of Metuchen Avenue is almost entirely inactive, apparently due to the fact that all the useable clay has been removed. A minor portion to the east of the railroad spur is still being worked, but infrequently. The most prominent topographic features of this pit area are the high cliff-like banks which rise at a sharp angle to the northwest and southwest. These cliffs indicate the boundary of clay excavation, and range up to 40 feet or more in height. The floor of the pit, although varying considerably in local elevation, is generally flat and merges into original ground at the eastern portions of the area. This indicates that before the clay was discovered, the original ground probably sloped down from the west to the east. The overburden of varying thickness was removed, and the clay was excavated, leaving a large open pit containing little or no vegetation. The present pit area is of two main elevations, very roughly speaking. There is an upper plateau region to the south and west, and a lower plateau region, to the north and east inside the confines of this large pit area. The higher elevations range from 70 to 80 feet above seal level; the lower plateau is some

10 to 20 feet below this. In some portions, the boundary between these plateaus is sharp and distinct, in the form of cliffs, while in other areas there is a gradual merging of the two areas. It should be emphasized that these descriptions are made as simple as possible, and local variations do exist. To the east of the railroad spur line, there are no large outstanding topographic features, but rather a series of small man-made piles and excavations. To the north, the claypit merges into original ground level, gradually slopes down in a northerly direction, then rises again north of the railroad.

To the south of Metuchen Avenue there is also a large claypit area. However, as opposed to those previously mentioned, this area is being actively excavated, and there are several portions in which considerable amounts of useable material is reported to be lying untapped. The topography, therefore, is subject to day-to-day change, as work continues. At present, the claypit area is separated from the higher ground to the west and south by a distant series of irregular low cliffs, which outline the limit of excavation. These cliffs are 10 to 20 feet high. The floor of the pit area, discounting the many piles of clay and waste which are stored temporarily, is relatively level. There is a gradual downward slope to the east, and a sharper uphill slope toward the City

incinerator which lies to the south on Main Street. The extreme eastern portions of this area are at an approximate elevation of 50 to 60 feet above mean sea level while the cliffs to the west are at an elevation of approximately 100 feet. In the pit area, there are many local variations in elevation of up to 10 or 20 feet, depending on how much clay has been excavated.

Work is now in progress at the southwestern area of the pit, and is continuing in a south and west direction. The overburden is stripped away and used to backfill the excavation from which the clay has been removed. This process is slowly lowering the ground level by 20 to 30 feet. Several other areas to the east of the railroad have yet to be worked and could be subject, in the future, to this type of excavation.

The small area to the south of Main Street, which ends at the New Jersey Turnpike has an extremely variable topography, portions of which are man-made. A relatively large pond, fed only by nearby rainfall runoff is situated in about the middle of this area. It is at the lowest point, the ground rising away rapidly on all four sides. It is obvious that this low area was at one time a claypit. However, no estimate can be made as to when it was last used. On the south side of the pond there appeared to be an

area of recent activity. However it could not be determined if clay had been recently removed. Between the pond and the Turnpike, the area is heavily-wooded high ground. Between the pond and Main Street, there are a series of man-made earth piles and smaller deep depressions which now contain water. The area adjacent to Main Street is higher, wooded ground.

DESCRIPTION OF SUBSOIL

According to published geological data, three distinct formations of different geological periods are present in this general area. The topmost formations were derived from the Wisconsin glaciation which occurred during the Quaternary period. Underlying this material is found the Magothy and Raritan Formations of the Cretaceous period. Shale bedrock is found at still greater depths. This shale of the Brunswick Formation, dates back to the Triassic period of geologic measurement. It probably occurs 50 feet or more beneath the ground surface, and as such may have little bearing on subsoil conditions. Emphasis, therefore, will be placed on the Quaternary and Cretaceous deposits.

The Quaternary or glacial deposits are now present only where excavations have not been made. They probably did, at one time, comprise the surface material which

had to be removed in order to get to the clay deposits. Two types of this surface soil, both products of glacial deposition, can be found at this site. The most prominent is an area of ground moraine, composed of unconsolidated, unstratified, heterogeneous material, ranging in size from clay to boulders, with silt and sand sizes most predominant. Colors are reddish and the material, for the most, part has been derived from nearby red Brunswick Shale deposits. This formation is exposed along the high cliffs to the north of Metuchen Avenue. The thickness here is so great as to prevent removal of the clay which lies beneath it. This is probably true of most of this upper rolling plain. However, thicknesses could be as little as several feet. The ground morainic formations cover all of the unexcavated portions of the area to the west of the pits with the exception of a small area in the far southwest end of the property, north of Main Street, which is composed of glacial termimal moraine. The soil characteristics are very similar to those of the ground morainic soil. Silt and sand sizes predominate and colors range from red-brown to brown. The thickness of this formation ranges from 80 to 150 feet, making it uneconomical to excavate for the clay which may be located beneath it.

The older Cretaceous material, of the Magothy and Raritan Formations, occurs beneath the above described formations where they exist, and at the ground surface in most of the claypit areas. It is in these formations that the valuable clays are found. The Magothy, composed of darker sands and clays overlies the Raritan Formation, composed of lighter colored sands and clays. Maximum combined depth of these formations may range from 150 to 300 feet or greater. There is a wide variation in material both vertically and horizontally. According to several texts, the more clayey portions are found in the lower half of the formations. It is possible, therefore, that bedrock may be present as little as 50 feet or less beneath the ground level, if this clay is from the lower portions of the Raritan Formation. However, this should not be anticipated throughout the site. A sketch is enclosed which better shows the possible location of the various formations. Soil borings or probings are the only means of definitely locating subsoil formation thickness and depth of bedrock.

SUBSOIL FIELD CONDITIONS

An inspection was made of the claypit area, with particular emphasis placed on the actual field soil conditions at the present time. In the large area north of Metuchen

Avenue, the ground surface for the most part was granular and hard. In several low areas where rainwater collected, deposits of silt and clay were found which varied greatly in color, thickness and bearing capacity, but which are probably superficial in nature. Several large mounds of material appear to be man-made, while the region referred to previously as the upper plateau appears to be original material. No meaningful tests of bearing capacity could be made, due to the extreme hardness of the surface soil in places where it appeared to be original material. There appeared to be no major filled areas present. This was verified by conversations with nearby workmen. It was reported that this portion of the claypits had been worked out, and that the underlying material is predominantly sand. Some clay was noted at the extreme northern end of the pit but the thickness is unknown.

The claypit area south of Metuchen Avenue contains many filled portions and filling is continuing at the present time. The process which results in the filling operation has been described under "General Topographic Features." Depth of fill varies from 10 to 30 feet. No effort to recompact this material is being made, making the subsoil conditions at this area extremely variable and probably unsuitable for inexpensive

methods of foundation construction.

The soil conditions in the area south of Main Street appeared to be variable in nature, but generally similar to the other claypit areas. No large filled areas were obvious owever, this area has not been worked for quite some time, and new underbrush made complete investigation difficult.

DRAINAGE

As previously mentioned, the only visible stream through this area is the small Heards Brook. There are not signs of the main ground water table, however, there are several indications or perched water tables throughout the site. The higher unexcavated areas of glacial origin have fair-to-good surface drainage due to the roll of the land and the granular texture of the surface material, but the subsurface drainage may be imperfect due to high percentages of silty soil below the surface. The terminal moraine is more granular in texture and therefore better drainage conditions can be expected than in the ground morainic material.

Surface drainage in the claypit areas appears to be fair-to-imperfect, depending on the slope of the ground and the direction of the slope. North of Metuchen Avenue,

rainwater flows in two patterns inside the large pit. Toward the south of the pit, the water flows to several large depressions, where it remains, trapped above silts and clays which have been deposited by the water. It then evaporates slowly. Toward the north of the pit, the runoff flows in a northerly direction through layers of coarse-to-fine sands which have been deposited above layers of impervious clay. This sand is generally no more than several feet thick, but as the railroad is approached, all traces of running water disappear. The clay must give way to an aguifer which carries the water at a greater depth below the existing grade. Subsurface ground water conditions are unknown.

The claypit area to the south of Metuchen Avenue appears to drain, for the most part, into Heards Brook. Runoff works its way on the surface or just below the ground surface to the brook by means of many small gullies and channels. Some rainwater does reach lower portions of this area, where it is trapped by impervious material and is prevented from draining properly. The surface soil, which is more clayey than that on the other side of Metuchen Avenue, becomes quite sticky during and immediately after rainfall and makes movement difficult until it is dried by the sun. Again, subsoil

drainage patterns are unknown and can only be determined by subsoil exploration.

The area south of Main Street drains almost entirely into the large pit in the center, from which there appears to be no surface outlet. It is reasonable to assume that silt and clay deposits have built up on the floor of this pond, preventing drainage into the subsoil. Evaporation seems to be the only way by which water is lost from this pit. Other smaller pits receive a minor portion of the runoff and retain the water in a similar manner.

EARTHMOVING CONSIDERATIONS

The main area in which earthmoving is an important consideration is the claypit north of Metuchen Avenue. The upper unexcavated plain to the west will need little or no earthmoving due to the fact that the topography is very gentle and rolling. The claypits to the south of Metuchen Avenue are still being worked and have been backfilled considerably, making their use in the immediate future doubtful. No estimates of quantities can be made for this area until clay removal is completed and the topography becomes permanent.

From rough topographic maps of the north claypit, several cross sections have

been drawn, and although they are approximate at best, they do give an idea of the quantities of material which may have to be transported. As was mentioned previously, this pit is roughly divided into two plateaus. One method of grading off the pit would be to leave the two plateaus and concentrate on leveling them off and connecting them smoothly. The other method would be to grade the entire pit to one level which would slope down slightly to the north for drainage purposes. In either case, the high cliffs to the west would remain. However, the stability of those slopes would have to be checked and the slope angles adjusted if necessary.

In order to grade the pit to one rough level, approximately 300,000 to 400,000 cubic yards of material may have to be transported from one portion of the pit to another. This should be the absolute maximum quantity and it could be slightly less. To terrace the pit so that there would be two distinct levels, the quantity of earth to be moved would probably be reduced by at least 50 per cent. Cuts and fills should be not greater than 10 to 15 feet maximum in either case.

All material would come from the pit itself, therefore, no fill material will have to be trucked in. There should be no excess cut material to be removed.

The specific composition of the variable subsoil is unknown in the areas of probable cut. If the cut material is granular, i.e. sand and gravel, and it is compacted properly under engineering supervision, foundations could be placed on the fill. If the cut material is primarily silt or clay, it can be used as fill, but structures would have to be founded on the original material, as this type of material is virtually impossible to compact to the uniform high density required for foundation loads.

The area south of Main Street has an extremely variable topography, which could be used to advantage without excessive earthmoving. The main problem involved is how to utilize the pond area, which appears to have no stream source or outlet, and therefore could easily become stagnant in a dry period. A park type development would limit earthmoving quantities, however, to place larger structures on this site a great deal of site work would have to be accomplished possibly 50,000 cubic yards as a rough estimate.

SUMMARY

Based on the information presented in this report, the following statements and recommendations can be made regarding the useability of the Woodbridge Claypit Area for future development.

1. It is our opinion that with the exception of those filled areas mentioned in the report, the subsoil over the entire area has reasonably high, safe soil bearing capacities. This is based, for the most part, on the fact that this area was covered by the edge of the Wisconsin glacier, and that all formations date back to this period, or are older. The weight of the ice and the material transported by the glacier was enough to compress and consolidate both the Cretaceous and Quaternary Formations. The soil now exposed in the claypits has been subject to the weight of the overburden before it was removed to make the clay available, therefore, it theoretically should be able to support loads equal to or greater than the weight of the overburden. The higher

morainic formations are also quite dense and should be able to support relatively high loadings. To be as specific as possible at this preliminary stage, we feel that soil conditions are such that this project is feasible. We would anticipated that safe soil bearing minimum values of one to two tons per square foot can be developed in the original material. Borings are not necessary at this early stage for determining preliminary feasibility. However, they will have to be made in the future in order to obtain more specific information.

2. At present,the claypit area south of Metuchen Avenue presents several problems. It is still being worked and contains appreciable amounts of good clay which has some economic value. More important, it has been filled in an irregular manner, thus making it extremely difficult to recommend use of this area as a site for structures of any magnitude, before more specific subsoil analysis has been made. The fill is up to 30 feet in

depth and the limits cannot, at present, be delineated to any degree of accuracy. We feel that this area should be the last to be developed and must be developed with extreme care.

3. The higher plains and the claypit to the north of Metuchen Avenue seem the likely starting places for the project, as far as soil conditions dictate. The area to the east of the railroad spur appears somewhat active, and there may be some doubt as to its inclusion in the near future. The railroad spur is not abandoned and must be included in future planning.

4. The area south of Main Street appears to be inactive and might also be considered in the first planning. The main disadvantage is its relative distance from the rest of the area, especially that area north of Metuchen Avenue. Another important consideration is the definite foul odor from the adjacent incinerator which permeates through this area. The

odor is believed to emanate from unburned incinerator residue. This waste must be covered with earth as in a sanitary landfill operation and future residue must be disposed of by the sanitary landfill method either on or off this site, depending on the development plan.

5. Drainage of rainfall does not appear to be a major problem throughout the area. The main ground water table seems to be well beneath the lower ground levels. Those pockets of water, which occur for the most part north of Metuchen Avenue, are perched above the main water table, unable to penetrate through the layers of fine silt and clay, which have been deposited after periods of rainfall. Once the areas are regraded, these pools should no longer be able to form. None, as far as could be determined, are fed by springs or other indications of the main ground water table.

6. Earthmoving considerations have been limited to those areas in which clay removal has been completed, and the topography is fairly well stabilized. The higher original ground will need little or no regrading in order to make it useable.

The floor of the pit north of Metuchen Avenue will need the majority of the work. Depending on the amount of work as determined by the final plan, up to 400,000 cubic yards of earth may have to be transported from one section of the pit to another. Satisfactory grading could probably be accomplished by moving approximately 200,000 cubic yards of earth in the pit.

No estimates can be given for the rapidly changing pit area south of Metuchen Avenue. Specific estimates have not been made for the area south of Main Street, due to the irregular topo-

graphy, and lack of specific topographic data. Earthmoving quantities could vary considerably. They would be minor if a park area is considered, however, for structures of any magnitude, quantities may be appreciable.

7. A program of subsoil exploration should be set up in order to serve as a basis for final planning. Soil borings should be made throughout the area, at critical locations, to determine definitely:

   a. The subsoil composition, i.e., thickness and depth of the alternating sand and clay layers.

   b. Safe soil bearing capacities: Although we have made a preliminary estimate under Item 1, it is entirely conceivable that higher bearing capacities can be utilized, which would result in economies.

   c. The ground water conditions: Casings left in the ground could be used to take periodic readings to determine the true ground

water level.

d. The useability of materials for cut and fill.

e. The presence of fill material and its approximate depth and composition.

The total number of borings needed to accomplish this program would be in the neighborhood of 20 to 25, and depths probably will average 30 to 40 feet.

SCOPE OF SERVICES FOR PLANNING

RATIONALE FOR PLANNING

The development of the Woodbridge center presents an opportunity to create perhaps the most unique, complete downtown development of any city, not only in New Jersey, but in the United States as well. There is no other older municipality of Woodbridge's size and importance within the State that has such a strategically located tract of land of this magnitude to undertake a development of this nature and importance. It is, therefore, important that this once in a lifetime opportunity be carried out properly. This means that, through detailed and thorough planning, along with other studies, the Township can develop an over-all plan for the area prior to disposal to a developer or developers. Included within this plan would be the items spelled out on the following pages.

ENGINEERING

1. A boundary survey, staking out and accurately mapping the metes and bounds of the project area.

2. A detailed topographic survey resulting in a topographic map of the project area at the scale of one inch to two hundred feet and showing contours at two foot intervals.

3. A soil analysis to include:

   a. Soil borings at critical locations. Approximately 50 borings should be taken. Depths will probably average 30-40 feet.

   b. Analysis of subsoil composition, i.e., thickness and depth of alternating sand and clay layers.

   c. An analysis of safe-soil bearing capacities for various types of foundations and construction.

   d. An analysis of ground water and drainage conditions.

   e. An analysis of the useability of materials for cut and fill purposes.

f. Report on the extent and location of fill material, its approximate depth and composition.

g. Estimation of the quantity of useable and excavatable clay remaining in the area.

h. Mineralogical analysis, if needed, to analyze value of possible mineral rights.

i. Mapping and reporting of the results of the above information in a form useful to planner and developer and on a scale of one inch to two hundred feet.

4. Survey and Report on public and semi-public utilities in and around the project area to ascertain information on capacities and adequacy of:

a. Sewers (storm and sanitary)

b. Waterlines

c. Gas Utilities

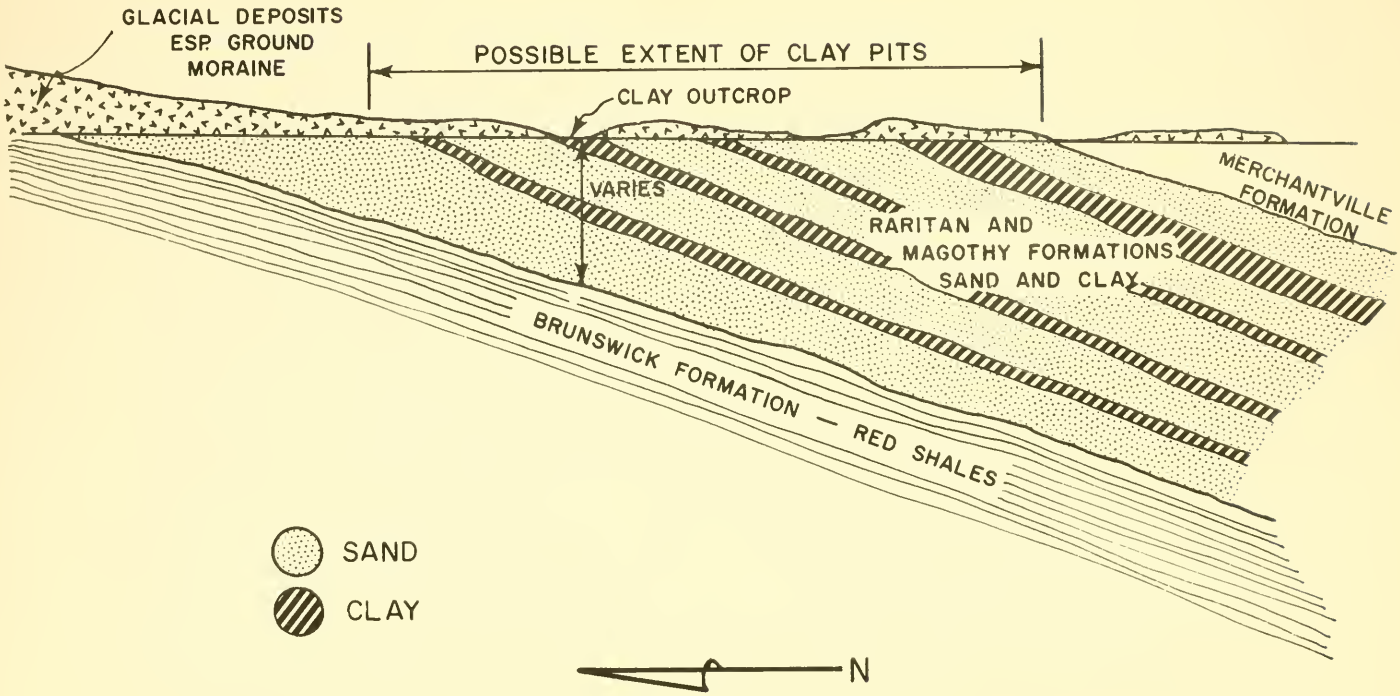
d. Electrical Utilities

5. Consultation with the Woodbridge Redevelopment Agency, planners, real estate firms, and other parties in solving engineering aspects of the planning problem.

6. In consultation with planners, preparation of cost estimates for public and semi-public improvements and relocation to cover water, sewers, gas and electrical utilities, street construction and earth moving, and any other cost estimates that are deemed necessary as the project progresses.

7. Preparation of a base map for the project area at a scale approximate for planning purposes.

SIMPLIFIED SCHEMATIC OF CLAY PITS PRIOR TO EXCAVATION



SOURCE: FRANK H. LEHR ASSOCIATES
CONSULTING CIVIL ENGINEERS

REAL ESTATE SERVICES

1. A Marketability Study by a qualified real estate firm to include:

   a. An analysis of present and projected population trends.

   b. An analysis of present and probable future buying power of the population within the primary and secondary trading area of the proposed project area.

   c. A report on the estimated effect on the proposed development of the existing major shopping centers such as Menlo Park and the proposed Klein's Discount Department Store.

   d. A thorough and extensive investigation of interest on the part of nationally-known, reputable developers in sponsoring development of commercial, residential, industrial and other types of land uses within the project area.

   e. In consultation with the Woodbridge Redevelopment Agency and its planners, recommendations for allocation of that portion of the total acreage which should be devoted to each potential type of reuse.

These recommendations will be based on the marketability studies undertaken and will include comment on such potential development as commercial (regional shopping), office buildings, high rise apartments, garden apartments, light industrial parks, hotels and motels, a natatorium, a museum, a civic auditorium, zoological park, county junior college, heliport, civic center, et al.

f. A study which will determine whether, and under what conditions, the proposed regional commercial shopping development will benefit or detract from the economic soundness of existing neighborhood shopping centers in Woodbridge.

g. An estimated project timetable for the sale of land based upon market absorption capacity.

h. An estimate of the dollar value of the development to occur.

i. A written report on the foregoing items of work.

j. General and continuing consultations with the Woodbridge Redevelopment Agency, its planners, engineers and other parties, to ensure

the incorporation of sound real estate knowledge into the final comprehensive planning proposals.

2. Acquisition Appraisals (2)

Two independent appraisals by qualified real estate appraisal firms to establish a fair value for each property in the project area and to include considerations of mineral or mining rights and values. These appraisals are to serve to establish prices for properties which are fair to owners and the public. They will also serve to estimate over-all acquisition costs for the project.

3. Reuse Appraisals (2)

Two independent appraisals of the reuse value of each parcel to be sold under the plan for the development of the project area will assist the Woodbridge Redevelopment Agency in establishing minimum prices and will help to guide the Agency in its disposition negotiations. The appraisals are also necessary to calculate the over-all and net costs of the project to evaluate its feasibility and its financing.

It should be noted that the obtaining of two, rather than only one appraisal, for both acquisition and reuse purposes follows the established procedure used nationally in federally assisted urban renewal projects.

PLANNING

1. Preparation of an accurate base map of the area bounded by Route 27, (Lincoln Highway), Route 9, the Garden State Parkway, Route 1, Oak Tree Road and Green Street, at a scale appropriate for planning purposes and showing:

   a. Lots and parcels

   b. Land uses on all parcels

   c. Buildings

   d. Vegetation

   e. Public Facilities

   f. Incorporation of engineering findings with the project area.

2. Preparation of a scale base model of project land and features at an appropriate planning scale. The purpose of this model is to be able to work in three dimensions in developing the design of the project, thereby capitalizing wherever possible, on existing topographic features.

3. Analysis of present and projected traffic volumes on Route 1, Route 9,

Garden State Parkway, New Jersey Turnpike, Interstate 287, and local and County roads. The purpose of this analysis is to relate this information to width, structure, traffic capacity, flow and safety features in conjunction with the plan for the project area. This work to be done in consultation with Brinckerhoff and Parsons, traffic consulting engineers. Accurate and complete traffic counts will be taken wherever it is deemed necessary.

4. Analysis of Civic Center space requirements and locational needs as a result of:

a. Discussions with Mayor, Township Committee, Business Administrator, Department Heads, Planning Board, and the Woodbridge Redevelopment Agency.

b. Analysis of comparable problems and solutions in other cities in the United States.

(1) Determination of best functional location.

(2) Determination of types of buildings and uses to be included within the site, i.e., police buildings,

fire station, library, theatre, museum, et al.

c. Relating projected civic center needs to needs of other governmental levels--state, county and federal.

d. Relating civic center proposals to complementary office needs, such as those for professional people.

e. Recommendations for site for civic center considering space, locational and other needs with emphasis on designing the over-all plan with the civic center as the functional focal point of the area.

5. Development of a comprehensive plan for the project area to include:

a. Site Plan for Land Uses. Development of a site plan, along with alternative plans in the event of unforeseeable circumstances arising, based upon marketability recommendations and technical considerations as indicated in the engineering study. This (these) plan(s) will also be based upon civic center needs, open space considerations, the relationship to adjacent land uses, and other relevant factors. The project area will be divided up into controlled parcels to be

developed for specified uses under specified controls for development. These controls shall cover density, height, bulk, parking requirements, open space, design and other relevant factors.

b. A Circulation or Traffic Plan. Development of a circulation or traffic plan, based upon recommendations of a competent traffic consultant, to solve the problem of ingress and egress of the area, and to ensure smooth and safe internal traffic flow. This plan will recommend local street locations and widths, location of traffic signals, type and amount of street lighting, safe pedestrian crosswalks and other relevent features of the plan. It will also recommend the most effective way of linking the traffic plan for the project area with the surrounding major highways. All recommendations will be worked out in consultation with Township, county, state and special authority highway agencies.

c. A Public Facilities Plan. Based upon analysis of the adequacy of present utilities to service the proposed development. This plan shall show recommended locations, size and estimated cost of the following,

but shall not include specifications for construction of:

(1) Sewers

(2) Water Lines

(3) Electric Utilities

(4) Gas Utilities

(5) And, if applicable, new railroad track location.

d. A Landscape Plan for proposed parks. At present, it is contemplated that the project could contain a minimum of at least one magnificent municipal park to complement the civic center and to enhance other new development. Planning services will include analysis of recreational and park needs, provision of parks and open space in the site plan and detailed park layout showing trees, shrubbery, a man-made lake, and other components. Plans will include working specifications and cost estimates and will be developed in consultation with Township officials responsible for parks and recreation.

e. Relocation Planning

(1) Interviews with project families and businesses to ascertain relocation needs, preferences and financial ability.

(2) Analysis of relocation resources available.

(3) Formulation of a relocation plan to suitably and conveniently relocate families and businesses insofar as possible with rents or sales prices within their means and with a moving schedule to minimize hardship.

6. Recommendations for controls and development of peripheral area adjacent to the project to provide protection to the project and to indicate the desired future character of that portion of the center of the Township which is not included within the project boundaries. These recommendations, although not in the detail of the project area comprehensive plan, will cover:

a. Land Use

b. Zoning

c. Circulation

d. Possible urban renewal project recommendations for adjacent areas.

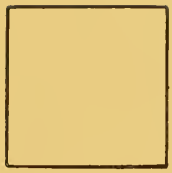
7. A cost-benefit analysis of the project to include calculation of gross and net project costs, Township housing needs for the project, expected direct cash gains from sale of project land, long range returns from taxes from new development and comparison of expected returns with Township investment in the project.

8. Preparation of a quality model at sufficient scale and in color to illustrate potential development of project area. Buildings, streets, highways, parks and landscaping and other features will be shown in detail. This model will assist in explaining the project to the public and in promoting the sale of land to developers.

9. Two hundred multilithed copies of a detailed final study report to include all findings and recommendations.

10. Preparation and offset printing of 2,000 attractively bound reports, in brochure form, of approximately 16 pages, for promotional purposes to developers and sponsors. This report will illustrate and explain the plan, and stress the market analysis of potential of project land.

11. Throughout planning, continuous liaison and consultations with the Woodbridge Redevelopment Agency.



SUGGESTED ORDER OF PROCEDURE

1. Approval and Appropriation of Planning Funds.

2. Establish blight.

3. Appropriate Planning Funds.

4. Undertake marketability study, test borings and planning of civic center needs.

5. Complete Planning and related studies.

6. Review and Approval by planning board, Woodbridge Redevelopment Authority and governing body.

7. Appropriation of Acquisition and Improvement Funds.

8. Purchase of land, relocation, sales to developers, public improvements and development of civic center.

QUESTIONS AND ANSWERS

QUESTIONS AND ANSWERS RELATIVE TO THE WOODBRIDGE CENTER FEASIBILITY STUDY

Q: Why is the Claypit Area under consideration for development?

A: * There are approximately 440 acres of land lying comparatively dormant and fallow in the heart of Woodbridge Township and the metro-regional area.

* The tax rate for this area of relatively vacant, fallow land is at the lowest possible level and should be of particular concern to everyone in the Township.

* Development of this area would rectify the imbalanced past physical growth of Woodbridge Township. Since World War II there has been a tremendous increase in the school population brought about by extensive single-family residential development without the equalizing accompanying development of ratable paying facilities. The proposed development for this area would greatly increase the ratables of Woodbridge Township and would, in turn, make possible the provision of public services for the residents. Included within these mandatory services would be additional school facilities to alleviate our presently overcrowded school system.

* The Township of Woodbridge does not, at present, have a true center. This area offers the best access conditions and location in the entire Township for such development.

* It would be an ideal site for a new modern municipal building that would be adequate for today and tomorrow's needs. The Township residential governing officials and Township employees are in dire need of such a facility. This new municipal building would also be centrally available to all areas of Woodbridge Township. Visiting industrial executives, and State and Federal officials, etc.,

judge a community from their first visual impression of the "capitol building." Look modern and adequate--appear advanced and stable, and your "welcome mat" effect is a most positive one.

* This development would give the various community sections a focal point that would provide for greater Township unity.

* This development would greatly enhance the prestige image of Woodbridge Township.

Q: Is is possible to undertake construction on such excavated claypit land?

A: Our engineering study, undertaken by a qualified engineering firm, indicates that this is completely feasible.

Q: What would be proposed for inclusion in this new Woodbridge center?

A: This is going to depend on an intensive real estate feasibility study which would encompass considerations for a major regional shopping center, office buildings, high-rise apartment buildings, garden apartments, municipal building, police headquarters, court house, museum, municipal library, public school, county junior college, botanical gardens, park, an ampitheater, children's zoo, swimming pool, live arts theater, lagoon for boating, ice and roller skating, bowling, other recreational facilities, medical clinic or hospital, hotel, night club, movie theater, light industrial park, etc.

Q: Why should it not be developed solely for industrial use?

A: Because of its strategic and facilitative location. This area is located within the heart of the Township, adjacent to U.S. Route 1, N. J. Route 9, and is within reasonable proximity to the Garden State Parkway and the N. J. Turnpike.

There is, at the present time, an overabundance of vacant land available in the Township for all types of industrial development. However, it is possible that light industrial use might be integrated in the development plan. Though industrial development provides many benefits, none could compare with the multitude of benefits offered via this type of proposed development. Furthermore, if exclusive industrial development was to occur in this size tract, it would create a vivid industrial character for Woodbridge Township. Woodbridge should not be a "factory town."

Q: Can this proposal for a developed Woodbridge center compete with other existing regional centers?

A: It is the opinion of our qualified real estate firm that this is entirely possible. A well-planned, all-inclusive development will not only compete with other centers but will undoubtedly surpass them.

Q: Can the concept of a Woodbridge center be sold?

A: There are many developers within these United States who are seeking sites of this nature. Because of the size, and the location, of this tract of land; the scarcity of adequate land in the metro-regional area; and the nature of this proposed development....the sales potential is tremendous. The preliminary marketability study was undertaken by a real estate firm that has sponsored such development in the past and they feel that this area has considerable potential. Without any solicitation whatever, developers' interest has already been indicated to the Woodbridge Redevelopment Agency. Therefore, such development is not only possible, but is in keeping with the present trend of

large scale development demands.

Q: Will this development affect the suburban nature of our community?

A: This project area is entirely surrounded by major highways which completely buffer it from any residential areas. It would not infringe on residential areas, and in fact, would actually enhance present land uses and land values that exist in Woodbridge Township today.

Q: Why should the Township of Woodbridge be involved in such development?

A: The claypit area land is mostly under private and ~~developer~~ diverse ownership. Assemblage of as large a tract as proposed by private enterprise would be extremely difficult, if at all possible, without municipal involvement to develop and control a sound and comprehensive urban development plan for the area rather than permitting it to develop piece-meal without adequate control of planning, usage, architectural design, traffic control, etc. The Township, of course, would gain as much investment return benefits as a private developer would. From such participation the Township could profit by obtaining land for public use from such a development. This would not be possible with exclusively private development.

Q: What municipal agency will be responsible for the undertaking of this project?

A: The governing officials of the Township of Woodbridge would be primarily responsible. The Woodbridge Redevelopment Agency will be responsible for the urban development. This agency will supervise the consultants undertaking marketability and re-use studies, engineering studies, and planning studies along with the employment of qualified, skilled technicians and planners to perform all necessary services. This agency will act as the project coordinator from the

initial undertaking, through the redevelopment phase, to the conclusion of the project creation.

Q: How are the necessary funds provided?

A: This development program will be undertaken with local and State assistance. This money will be borrowed as an investment. Municipal bonds will be issued to provide the planning administration with the necessary land acquisition ~~map~~ monies.

Q: How will the money be repaid?

A: The bonds will be repaid from the proceeds of the sale of the project land. Our study indicates that this land should be sold at a net profit, thereby providing immediate benefit for the Township's investment.

Q: Is this a sound investment?

A: Considering the estimated net profit from the re-sale of the land along with approximately 100 acres of land to be dedicated for public use, and the tax return from the property as it presently stands compared with the potential ratable return from the same area when developed...,this will be a most profitable municipal investment.

It is estimated that approximately $75,000,000 worth of construction will occur within the project area and this, in turn, will generate a greater influx of secondary services (e.g. bus depot, taxi service, helicopter service, wholesale suppliers, trucking depots, maintenance service, etc.) to the Township.

This development will result in an annual increase of eighty times the present return of total gross tax ratables to Woodbridge Township.

Q: Can we afford to undertake this development today?

A: Actually we can't afford not to undertake this development today. If we do not act immediately, land values will have a tendency to increase with time rather than decrease. Private development will eventually be undertaken in sections of this area by the present owners without any long range planning concepts and controls, or regard for the Township's ultimate welfare. This will prevent the full and complete development of the area which would be most beneficial to the Township.

Our tax base problems must be solved today....public service demand will continue to increase and sound planning is necessary to make these services possible. Revenues from the execution and completion of this project will help solve the Township's public service and school problem.

If Township participation is not instituted, Woodbridge would lose the opportunity of obtaining approximately 100 acres of land for public development for a new municipal civic center, a recreation and park area, cultural and live art facilities, and any other public uses. All of these uses would enhance Woodbridge's reputation and prestige as the finest, most impressive and progressive municipality in the State of New Jersey and the metropolitan region.

Q: What effect can such a development have upon our community?

A: There are many effects to be considered. Among the most significant are the following:

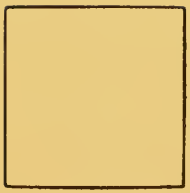
Economic Effects: The Township would be in a position to gain increased tax ratables in this development. The increase of annual tax returns will be

approximately eighty times greater than the present tax return. The creation of this new Township center will create many new employment opportunities for Township residents. Any large development of this nature will naturally stimulate the growth of secondary services in the surrounding areas. This will propogate the potential for additional sources of tax ratables for Woodbridge Township.

Education Effects: The increased tax revenues for Woodbridge will provide additional and more adequate schools. The students and parents of Woodbridge Township deserve the finest school system on a full time basis. They should not be deprived of that which they so rightfully deserve--the best possible education. This project would include public school and college sites for future Township needs, and would provide educational and cultural facilities (fine arts theater, botanical gardens, zoo, etc.). These facilities could be made an integral part of our public school programs. With the opportunity to gain these benefits through this proposed development all citizens of Woodbridge Township should carefully examine all the tangible and intangible elements that can be derived from such an undertaking.

Cultural Effect: With a new civic and cultural center proposed for this project area, a host of cultural programs are possible. With the high calibre of persons now residing in the Township, this development will provide the potential for the presentation of various types of professional performances by national and international artists in a modern ampitheater and an opportunity to enjoy the fine arts which will be made available through the proposed construction of a museum.

Prestige Effect: Through a superbly planned development, this area has the potential of providing the prestige for Woodbridge that the Golden Triangle did for Pittsburgh; that Lincoln Center did for New York; that Crossroads Mall did for Roanoke, Virginia; that Kalamazoo Mall did for Kalamazoo, Michigan. The endeavor and scope of this project would be one of the most significant American municipal enterprises ever undertaken. It would result in creating an image of Woodbridge Township as being the most imaginative and dynamic community in the United States.



CONCLUSION

We believe that the undertaking of this project would be one of the most significant American municipal enterprises in this century. In significance, it would dwarf such nationally known developments as the Golden Triangle, Penn Center, Downtown Dallas, Midtown Plaza, and other development or renewal projects. It would do more than strengthen Woodbridge's economic tax base and provide the unifying civic center so badly needed. Rather, this new center would result in Woodbridge's reputation as the finest, most progressive municipality in New Jersey.

The original concept as stated in the Community Renewal Program was dynomic and futuristic. The actual project will call for this plus vision and imagination. It will certainly reflect just credit on those who create, carry out and complete the

WOODBRIDGE CENTROSPHERE.

SUMMARY OF QUALIFICATIONS

Herbert H. Smith Associates was formed in 1953 as a planning consulting firm to municipal and private clients. During the early years of the organization, planning services were provided to over 60 small municipalities under the federal urban planning assistance program. Over the years the firm has become active in and has developed techniques for county and regional planning. The firm has served as consultants to six counties with services ranging from setting up a permanent planning staff for these counties to providing a comprehensive county plan. In regional planning, work has been done with the Fourth Naval District covering the South Jersey area and most recently the firm has undertaken the Pinelands Regional Study. This latter program consists of the preparation of development alternatives for the 980 square mile pineland region of New Jersey.

In 1958 an Urban Renewal Division was developed. Since then, the Urban Renewal Division has provided consulting services to eighteen cities on various urban renewal projects. The range of renewal undertakings not only covers the straight clearance projects, but also conservation, historical renewal, general neighborhood renewal plans, and Section 112 projects.

In 1960, the Division of Economic Research was created to offer economic analysis services for shopping center locations, bank locations, and urban renewal marketability services. By developing this specialty the firm has been able to bring greater depth to its planning and urban renewal clients.

STATEMENT OF FIRM POLICY

The firm of Herbert H. Smith Associates is dedicated to advancing the field of professional planning as a significant, practical process within the framework of government and private industry. In so doing the firm is seeking to offer its services to clients who share the firm's belief in planning and who are willing to initiate bold programs, dynamically conceived, and practically applied.

To meet the implied responsibility of firm policy it has assembled a staff of young, imaginative planners, guided by a cadre of experienced professionals, and headed up by Herbert H. Smith, who has over fifteen years of varied planning experience. Though each client is assigned to one member of the firm so as to provide continuity and accountability, every effort is made to approach particular problems on a specialist basis. This permits the focusing of special talents on a given contract to accomplish specific ends. The staff is able to provide this service because professional planners at Herbert H. Smith Associates come from such diverse academic backgrounds as landscape architecture, architecture, economics, sociology, city management, government, and civil engineering, with each of the responsible planners also specially schooled in the field of city planning.

THE PRESIDENT

Herbert H. Smith Associates is organized so that its administration and overall supervision is the responsibility of its President, Herbert H. Smith, one of the original incorporators of the firm.

The background of the President includes:

Education:

Bachelor of Architecture, University of Cincinnati

Master of Regional Planning, Cornell University

One year civil engineering training, South Dakota School of Mines

Planning Experience: (fifteen years)

Hamilton County Ohio Regional Planning Commission

Regional Studies Section, Tennessee Valley Authority

Resident Planner, Trenton, New Jersey, Metropolitan Plan

Assistant Chief, New Jersey State Planning Bureau

Chief, New Jersey State Planning Bureau

Executive Director, Community Planning Associates, Inc.

President, Herbert H. Smith Associates

Professional Affiliations:

American Civic and Planning Association - Member

American Society of Planning Officials - Member

American Institute of Planners - Member

(Past President, Philadelphia Regional Chapter)

(President, New Jersey Chapter)

General Information: (Partial listing)

Prepared New Jersey State Development Plan

Supervised preparation of Regional Analysis, Trenton-Camden Metropolitan Area

Author of numerous publications and articles on planning, development and zoning

Prepared technical papers and appeared as speaker before national conferences such as: American Public Works Congress, American Society of Planning Officials, American Institute of Planners

Served as guest lecturer on planning for Cornell University, Princeton University and Rutgers University

Listed in "Who's Who in the East"

EXECUTIVE DIRECTOR

GORDON G. GEIS

The Executive Director was responsible for the administrative functioning of the Woodbridge project.

Education:

Bachelor of Science, University of Massachusetts

Bachelor of Landscape Architecture, University of Massachusetts

Master in City Planning, University of Michigan

Planning Experience (ten years):

Montgomery County Planning Commission, Pennsylvania, Assistant Director

Consultant, Rhode Island Development Council

Project Director, Community Planning Associates

Executive Director, Herbert H. Smith Associates

Professional Affiliations:

American Society of Planning Officials - Member

American Institute of Planners - Member

American Society of Landscape Architects - Member

Registered Landscape Architect - New York State

Pennsylvania Planning Association - Member

University of Massachusetts Landscape Architects Association - Member

General Information:

Served as consultant to Rhode Island Development Council, 1954, in surveys and report on Hurricane damage of Rhode Island.

Supervised preparation of Regional Master Plan of 4th Naval District, U. S. Navy, 1958.

Consultant to municipalities in New York, Pennsylvania, Rhode Island, and New Jersey in municipal, county and regional planning.

TECHNICAL DIRECTOR

ROBERT G. STRONG

The Technical Director was responsible for coordination of all technical phases ond for the economic research data of the Woodbridge Project.

Education:

Bachelor of Arts, Rutgers University

Graduote work at University of Pennsylvania

Planning Experience:

Herbert H. Smith Associates, 7 years

Professional Affiliations:

American Institute of Planners - Associate

Americon Society of Planning Officials - Member

PLANNING DIRECTOR

ALFRED P. VAN HUYCK

The Planning Director participated in the preliminary planning within the project.

Education:

Bachelor of Arts, Dartmouth College

Master of Regional Planning, University of North Carolina

Planning Experience (five years):

South Norfolk Redevelopment and Housing Authority

City Planning Department, Columbia, South Carolina

Herbert H. Smith Associates(3 years)

Professional Affiliations:

American Institute of Planners - Associate Member

National Association of Housing and Redevelopment Officials - Affiliate Member

Pennsylvania Planning Association - Member

General Information:

Sears-Roebuck Fellow 1957-1959

Guest lecturer on planning at Dartmouth College, Unversity of North Carolina, and the University of Pennsylvania

Author: Urban Renewal and Public Works Can Be Partners, Public Works Magazine, August, 1961.

Co-Author, "The Citizen's Guide to Urban Renewal" published October, 1962 by Chandler-Davis Publishing Co.

DIRECTOR OF URBAN RENEWAL

JOHN J. HORNUNG

The Urban Renewal Director was responsible for the study and the direct liaison field coordinator of the Woodbridge project.

Education:

Bachelor of Arts, Harvard University

Masters Degree in Public Administration, Maxwell School, Syracuse University

Completed HHFA's management training program.

Experience:

Field Coordinator, Urban Renewal Commissioner, Washington, D. C.

Field Representative, Urban Renewal Administration, Region II, office to Newark, Rahway, Elizabeth and other cities in the Newark Metropolitan region.

Assistant Director of Urban Renewal, Herbert H. Smith Associates.

Professional Affiliations:

National Association of Housing and Redevelopment Officials - Member

American Institute of Planners - Affiliate Member

General Information:

Co-Author, "The Citizen's Guide to Urban Renewal" published October, 1962 by Chandler-Davis Publishing Co.

ALEXANDER SUMMER COMPANY

MARKETABILITY AND REAL ESTATE CONSULTANTS

The Summer Companies are of national prominence in the real estate and development fields. Mr. Summer is a past president of the National Association of Real Estate Boards, a 75,000 member body, and is a member of the American Association of Real Estate Counselors. For twenty years Mr. Summer has served prominently on the Realtors Washington Committee, both as member and as chairman (1947). He has served as chairman of the President's Advisory Committee on Government Housing Policies and Programs and as special consultant to the Small Business Administration, Washington, D. C.

Mr. Summer has served as consultant in such major development projects as the 1260 family Colonnade Park Housing and Commercial Project in downtown Newark, New Jersey, and as consultant and exclusive leasing agent for J. P. Stevens Company, the world's largest textile manufacturer, in the conversion to an Industrial Terminal of the former Forstmann Woolen 1,100,000 sq. ft. plant in Garfield, N. J.

The Mortgage Company has been the outstanding agency since World War II in the financing of New Jersey rental housing. In Newark alone, the Summer Mortgage Company has been responsible for the financing of over two-thirds of all private enterprise apartments since World War II. Recent financing either placed or on the books in various stages of progress amounts to in excess of $150,000,000.00. The average mortgage transaction during 1961 exceeded $2,000,000.00.

Mr. Summer owns the land involved in the largest development of luxury apartments ever undertaken in New Jersey. Tishman Realty and Construction Co. is now in the process of building this 1260 family development on the West Shore of the Hudson River overlooking New York City.

From the commercial aspect, the Company's recent major projects include the assembling of the land for and the complete leasing for Allied Stores, of the Bergen Mall, Paramus, one of the East's largest regional shopping centers. Among the other shopping center projects currently being developed and leased by the Company are the Preakness Center in Wayne Township, Foster Village in Teaneck, and Prudential Life's "The Mall at Short Hills" shopping plaza, where the Company is exclusive agent for Prudential, and where many of the most prominent Fifth Avenue, New York, stores will be located, including such names as B. Altman, Bonwit Teller, Stouffers, Peck & Peck, and F. A. O. Schwartz.

Mr. Norman Schatton, Vice President in charge of the Commercial Leasing Department, is a nationally recognized authority on chain store leasing and a member of the International Council of Shopping Centers.

The Company's Industrial Department has been prominent nationally and particularly in New Jersey, where the Summer organization assembled the land and completely developed the 3,000,000 sq. ft. Teterboro Industrial Terminal where such prominent firms as Ford Motor Company, Parke Davis, Sylvania Electric, and Bendix Aviation are among the 45 companies who employ about 14,000 employees. These companies all had their plants planned and engineered by Summer Companies. A recent Industrial Department sale was the $2,800,000.00 sale of the former

Forstmann Knitting Mills 1,100,000 sq. ft. facility at Garfield, New Jersey, which our Company previously leased.

The Summer Appraisal Company has completed, during the past 18 months, appraisals involving a variety of properties with a total value approaching $60,000,000. Included have been a $4,500,000.00 existing regional shopping center and a $10,250,000.00 industrial and land complex.

The Summer organization also has active Land, Property Management, Business Brokerage, Residential Sales, Lake Home Development, and Insurance Departments.

FRANK H. LEHR ASSOCIATES

CONSULTING ENGINEERS

Frank H. Lehr is the President of Frank H. Lehr Associates. The background of the President includes:

Professional Engineer

Massachusetts License #7705

New Jersey License #9060

New York License #32458

Connecticut License #4380

Pennsylvania License #04641

Professional Training:

Bachelor of Science in Civil Engineering - Pennsylvania State University

Masterof Science in Civil Engineering (Structural Option) Newark College of Engineering

Graduate Study - Special courses in Soil Mechanics - Columbia University

Professional Organizations:

President - Professional Engineers Society of Union County

Major - United States Marine Corps Reserve

Member - Consulting Engineers Functional Section of New Jersey.

Associate Member - American Society of Civil Engineers

Member - Metropolitan Section, A. S. C. E.

Member - National Society of Professional Engineers.

Military Member - Society of American Military Engineers

Member - Marine Corps Reserve Officers Association

Member - American Society for Testing Materials.

Since 1957, the firm has undertaken and completed over 350 projects with one or more phases of engineering work accomplished. These projects include:

SOIL ENGINEERING - FOUNDATION DESIGN (Partial Listing)

University of Hartford Addition	West Hartford, Conn.
McGuire Air Base	Fort Dix, N. J.
Fifth Avenue Pavilion	Asbury Park, N. J.
Msgr. Farrell High School	Staten Island, N. Y.
Slope Stability Study	Long Meadow, Mass.
U. S. Metals - Plant Additions	Carteret, N. J.
Urban Renewal (Reclamation)	Rahway, N. J.
Owens-Illinois Warehouse	North Bergen, N. J.
Goodyear Warehouse	North Brunswick, N. J.

STRUCTURAL DESIGN AND ANALYSIS

Stony Brook Bridge (120' Composite)	Hopewell Township, N. J.
Reinforced Concrete Bridge (Poe Road)	Princeton, N. J.
" " " (Shady Brook Rd.)	Princeton, N. J.
Lift Bridge (Repair Design)	Perth Amboy, N. J.
Mill Building (Campbell Foundry)	Kearney, N. J.
Jersey Testing Laboratory Additions	Newark, N. J.
Sissors Truss (Elementary School)	South Brunswick Twp., N. J.
Newton Elementary School	Newton, N. J.
Freehold Raceway - Grandstand Roof	Freehold, N. J.